

Q-QUENCHING SUPER-REGENERATIVE RECEIVER

ABSTRACT OF THE DISCLOSURE

[0042] A super-regenerative receiver uses controlled Q-quenching and may limit the resonant tank circuit amplitude by loading the tank circuit as soon as regenerative oscillation is detected. An amplitude detector is coupled to the regenerative amplifier and controls a Q loading circuit coupled to the tank circuit of the regenerative amplifier. The amplitude detector turns on the Q loading circuit which then stops the regenerative amplifier from oscillating, and the Q-loading remains on for a brief time to insure that the regenerative amplifier has stopped oscillating. After the brief time, the Q loading circuit is turned off and the regenerative amplifier goes into oscillation again. This cycle repeats controllably over and over, resulting in a lower self-induced noise floor and improved received signal sensitivity. The super-regenerative receiver may be used in the very low frequency (VLF), low frequency (LF), medium frequency (MF), high frequency (HF), very high frequency (VHF) and super high frequency (SHF) ranges to receive continuous wave (CW), amplitude modulated (AM) and frequency modulated (FM) radio signals.